

## REMARKS

In the Office Action, claims 15-20 are rejected under 35 U.S.C. § 103(a). More specifically, the Patent Office has relied solely on Idota in support of the obviousness rejection. Applicants respectfully submit that the obviousness rejection is improper at least for the reasons set forth below.

Of the pending claims, Claim 15 is the sole independent claim. Claim 15 relates to a non-aqueous electrolyte secondary battery. The battery of Claim 15 includes, in part, an anode mix and a cathode mix that each include a conductive agent consisting essentially of flaky graphite, granulated carbon and carbon black. The crystalline structure of the granular carbon has a thickness associated with a spacing of a (002) plane of about 100 nm or less. The flaky graphite has a thickness of a (002) plane spacing greater than 100 nm.

Applicants have surprisingly discovered that the specific material properties of the non-aqueous secondary battery as required by the claimed invention can facilitate the performance of that battery. For example, by allowing the anode and the cathode to include flaky graphite and granulated carbon, long charge/discharge cycle life time can be obtained. In addition, by containing carbon black as conductive agent, longer charge/discharge cycle life can be obtained. Specification, p. 5, lines 3-13.

The Patent Office alleges that the invention as a whole would have been obvious because Idota teaches that the conductivity-imparting agent may contain various carbon materials such as flaky graphite, carbon black, acetylene black, artificial graphite and mixtures thereof. The Patent Office further alleges that it would have been obvious to combine the artificial graphite with the flaky graphite and acetylene black/carbon black to form a conductivity-imparting agent including artificial graphite, flaky graphite and acetylene black. However, Applicants note that even if properly combinable, the Patent Office's combination still does not teach or suggest a conductive agent consisting essentially of flaky graphite, granular carbon and carbon black as required by the claimed invention.

At the outset, Idota merely provides carbonaceous materials as an optional material that can act as a conductive-imparting agent. For example, Idota provides that the compound capable of being doped with anions can include polymer compounds having resonance structures or carbonaceous compounds. Further, Idota does not disclose the specific combination of flaky

graphite, carbon black and granular carbon as claimed and even admitted in the office action on p. 4. Indeed, Idota generally describes a number of different carbonaceous compounds that can be utilized. See, Idota, col. 3 ln. 38-42.

Moreover, the examples in Idota merely relate to a single type of carbonaceous material. Therefore, Idota would not motivate one skilled in the art to combine carbonaceous materials for greater effect, let alone to combine the specific conductive agent materials as required by the claimed invention.

As previously discussed, the battery as claimed includes, in part, a conductive agent that consists essentially of flaky graphite, carbon black and granular carbon. The desired effect of the specific combination of these materials is demonstrated for example, at Table 6 on p. 57 of Applicants' specification. Here, granulated carbon and flaky graphite serve as the conductive agent. This combination improves the capacity maintenance ratio of the non-aqueous electrolyte secondary battery. Additionally, when carbon black is added, the capacity maintenance ratio is further improved. Therefore, Applicants believe that Idota is distinguishable from the claimed invention for at least these reasons.

Based on at least the differences between the claimed invention and the cited reference as discussed above, Applicants respectfully submit that the cited reference on its own fails to render obvious the claimed invention. Accordingly, Applicants respectfully request that the obviousness rejection with respect to Claims 15-20 be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of the same.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY 

Thomas C. Basso  
Reg. No. 46,541  
P.O. Box 1135  
Chicago, Illinois 60690-1135  
Phone: (312) 807-4310

Dated: December 22, 2004